

# Mid season conventional canola National Variety Trials (NVT) in Victoria

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## Take Home Messages

- In 2007, the hybrids Hyola 50, Hyola 75, Hyola 76 and the open pollinated variety <sup>AV</sup>Garnet tended to consistently produce the highest yields of conventional varieties grown in the mid-season ("main") trials across the Victorian regions.
- The varieties with the highest oil content in 2007 tended to be Skipton, <sup>AV</sup>Jade, Hyola 76 and <sup>AV</sup>Garnet. Of these, <sup>AV</sup>Garnet was the least variable between sites.
- <sup>AV</sup>Garnet, Hyola 50 and Hyola 75 are, on average, the highest yielding mid season conventional canola varieties/hybrids in the Wimmera and Northeast, North Central and Southwest Victoria tested in NVT from 2000-2007. However, note that not all current varieties are listed.
- Variety choices need to be based on the variety's maturity, potential yield and oil content and blackleg resistance rating.
- Hybrid seed is more expensive than seed of open pollinated varieties.

## Introduction

NVT is a national program of comparative crop variety testing with standardised trial management, data generation, collection and dissemination. The program is supported by the Australian Government and growers through the Grains Research and Development Corporation (GRDC) and is managed by the Australian Crop Accreditation System (ACAS) Limited. Further information can be found on the website: [www.nvtonline.com.au](http://www.nvtonline.com.au).

This report provides the yield and oil results for 4 sites in 2007 and the long-term yield results for 2000-2007 from the "main" mid season non herbicide tolerant (conventional) canola variety trials, constituting part of the NVT.

## Methods

The Hamilton, Streatham and Minyip trials were conducted by the Victorian Department of Primary Industries and the Katamatite trial was conducted by Agrisearch Services Pty. Ltd. These were undertaken using small plot equipment, on behalf of Australian Crop Accreditation System as part of the National Variety Trials program, supported by the GRDC.

### **Hamilton site:**

Weeds in the trial plots were sprayed with a knockdown of 2 L/ha glyphosphate 540 g/L as Roundup Powermax plus clopyralid at 0.15 L/ha on 24 April. The Hamilton site was sown into good moisture and subsoil moisture with 10 kg/ha MAP (with 2% S) on 2 May 2007 into sandy-loam/loam. It was sprayed with 0.1 L/ha bifenthrin 100g/L as

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Talstar 100 EC and 0.25 L/ha S-metolachlor 960g/L as Dual Gold. A post-emergent spray of clethodim at 0.25 L/ha for grass weeds and clopyralid at 0.35 L/ha were applied on 6 June. An additional applications of clopyralid at 0.3 L/ha was used with a grass spray of Haloxypop-R 130 g/L at 0.4 L/ha on 23 July. Rainfall for 2007 was 680 mm, with 470 mm GSR (Apr-Nov). The trial was windrowed on 20 November and harvested 10 Dec 2007. Further details of paddock history, plant establishment etc. can be found on the ACAS website.

### **Streatham site:**

Weeds in the trial plots were sprayed with a knockdown of 2 L/ha glyphosate 450 g/L plus clopyralid at 0.15 L/ha on 7 May. The Streatham site was sown into good moisture and subsoil moisture with 100 kg/ha DAP (2% S) on 8 May 2007 into sandy loam. It was sprayed with 0.15 L/ha bifenthrin 100g/L as Talstar 100 EC and 0.25 L/ha S-metolachlor 960g/L as Dual Gold. A post-emergent spray of clethodim at 0.25 L/ha for grass weeds and clopyralid at 0.35 L/ha were applied on 6 June. Early growth measured on 31 July was generally excellent. Rainfall for 2007 was 654 mm, with 478 mm GSR (Apr-Nov). The trial was windrowed on 22 November and harvested 11 December 2007. Further details of paddock history, plant establishment etc. can be found on the ACAS website.

### **Minyip site:**

A knockdown of 1 L/ha glyphosate 450 g/L was applied with chlorpyrifos 500 g/L immediately before sowing into good moisture on 25 May 2007. The trial was sown with 100kg/ha Granulock SupremeZ (N:P:K:S 12:21:0:4). 1.5 L/ha trifluralin (480 g/l) was also applied post-sowing. 0.10 L/ha bifenthrin 100g/L as Talstar 100 EC was applied on 26 June. Rainfall for 2007 was 341 mm, with 154 mm GSR (Apr-Oct), and only 15 mm falling between August and October. The trial was windrowed on 7 November and harvested 20 November 2007. Further details of paddock history, plant establishment etc. can be found on the ACAS website.

### **Katamatite:**

A knockdown of 1.5 L/ha of glyphosate 540 g/L was applied immediately before sowing on 2 May 2007. The trial was sown with 100kg/ha Granulock 15 (N:P:K:S 14:12:0:10). 1.5 L/ha trifluralin (480 g/l) was also applied post-sowing. 0.1 L/ha bifenthrin 100g/L as Talstar 100 EC was applied post-emergent on 17 May. 0.12 L/ha clopyralid was sprayed post-emergent on 7 July and 100 kg/ha urea was topdressed on 20 July. The trials was windrowed on and harvested on 15 November 2007. Further details of paddock history, plant establishment etc. can be found on the ACAS website.

## Results

In 2007, the hybrids Hyola 50, Hyola 75, Hyola 76 and the open pollinated variety <sup>AV</sup>Garnet tended to consistently produce the highest yields of mid-season conventional varieties across the Victorian regions at the NVT sites (Table 1).

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**Table 1:**

Yield of "main" season conventional canola varieties in 2007 Victorian trials expressed as a percentage of <sup>AV</sup> Sapphire.

Variety	Maturity	South West		Wimmera	North East
		Hamilton	Streatham	Minyip	Katamatite
<sup>AV</sup> Sapphire (t/ha)		2.57	2.65	0.93	0.55
		% <sup>AV</sup> Sapphire			
<sup>AG</sup> Spectrum	Early	97	116	90	115
<sup>AV</sup> Garnet	Mid	122	166	129	209
<sup>AV</sup> Jade	Early-mid	93	120	101	131
<sup>AV</sup> Sapphire	Mid	100	100	100	100
Hyola 50	Early-mid	108	146	147	142
Hyola 75		123	145	130	124
Hyola 76	Mid-late	111	138	155	127
Monola NMC131		-	-	96	115
Skipton	Mid	92	80	73	80
Surpass 603 CL		-	-	90	67
Site Mean (t/ha)		2.72	3.42	1.07	0.67
CV (%)		6.96	9.25	8.03	10.87
LSD (%)		12	19	15	20

The varieties with the highest oil content tended to be Skipton, <sup>AV</sup>Jade, Hyola 76 and <sup>AV</sup>Garnet. Of these, <sup>AV</sup>Garnet was the least variable between sites (Table 2).

**Table 2:**

Oil content (%) of "main" season conventional canola varieties in 2007 Victorian trials.

Variety/hybrid	South West		Wimmera	North East
	Hamilton	Streatham	Minyip	Katamatite
<sup>AG</sup> Spectrum	45.1	43.2	36.8	36.8
<sup>AV</sup> Garnet	48.7	45.2	40.7	39.3
<sup>AV</sup> Jade	49.5	45.8	41.9	39.4
<sup>AV</sup> Sapphire	49.1	44.9	39.0	37.0
Hyola 50	47.3	44.8	40.8	38.7
Hyola 75	49.5	45.1	40.7	34.9
Hyola 76	48.3	45.6	42.6	38.1
Monola NMC131	-	-	41.3	36.3
Skipton	52.1	45	41.5	38.5
Surpass 603 CL	-	-	-	38.0

<sup>AV</sup>Garnet, Hyola 50 and Hyola 75 are, on average, the highest yielding mid season conventional canola varieties/hybrids in the Wimmera and Northeast, North Central and Southwest Victoria tested in NVT from 2000-2007 (Table 3). Note that not all currently available varieties are listed in the table.

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**Table 3:**

Long-term average yield (t/ha) of mid season conventional canola varieties from 2000 to 2007 Victorian trials.

Genotype	North Central	North East	Wimmera	South West
<sup>AG</sup> Spectrum	1.25	1.85	1.62	2.56
<sup>AV</sup> Garnet		2.19	1.86	2.97
<sup>AV</sup> Jade	1.23	1.89	1.62	2.57
<sup>AV</sup> Sapphire	1.13	1.76	1.54	2.49
Hyola 50		2.18	1.91	2.93
Hyola 75	1.38	2.15	1.85	2.93
Hyola 76				2.84
Monola NMC131		1.67	1.46	
Pioneer®46C04	1.24	1.88	1.63	2.56
Rivette	1.21	1.81	1.66	2.44
Skipton	1.14	1.84	1.55	2.49

### Commercial practice

In addition to its track record for yield and oil content, growers should select a variety based on the maturity most suited to the growing season of the crop. Later sowing may require a slightly earlier maturing variety. The choice of variety also needs to match up the risk of blackleg to the variety's blackleg resistance rating, as fungicides alone will not give complete control of the disease when disease pressure is high. The triazine tolerant (TT) varieties are generally inherently lower yielding than conventional varieties. A conventional variety of canola is preferred to a TT if the weed population and herbicide rotation suits it. Hybrid seed is around \$12/kg more expensive than open pollinated varieties and cannot be retained for sowing the following year's crop.